



## Enterprise SSDs

Leveraging state-of-the-art BiCS FLASH™ 3D flash memory with in-house designed controllers and firmware, KIOXIA enterprise SSDs optimize high performance, endurance and reliability to run mission critical applications in enterprise data center environments. To meet the demands of highly transactional and high-bandwidth workloads, these SSDs feature high levels of performance and data protection with power-loss-protection (PLP)<sup>\*1</sup>. KIOXIA enterprise SSDs offer a range of security options<sup>\*2</sup> designed for business critical data storage.



2.5 inch

**PM5 Series**  
SAS SSD



2.5 inch

**CM5 Series**  
PCIe® / NVMe™ SSD

Product image may differ from the actual product.



**BiCS FLASH™**

### PM5 Series

Based on 64-layer BiCS FLASH™ 3D flash memory, the PM5 Series of dual-port 12 Gb/s SAS SSDs is available in a 2.5 inch (15 mm Z-height) form factor with capacities up to 15.3 TB. These SSDs feature Power Loss Protection (PLP) and offer a range of security/encryption options.<sup>\*2</sup>

Model Number	DWPD <sup>*3</sup>	Interface	Form Factor	User Capacity (GB) <sup>*4</sup>	Performance (up to)				Typical Power Consumption (W) <sup>*9</sup>	Operating Temperature (°C)	Dimensions H / W / L (mm)		
					Sequential (128 KiB) <sup>*5 *6 *7</sup> (MB/s)		Random (4 KiB) <sup>*5 *6 *7 *8</sup> (KIOPS)						
					Read	Write	Read	Write					
<b>KPM51MUG3T20</b>	10	SAS-3.0, single/dual port and MultiLink SAS™ support	2.5 inch	3,200	2,100	2,100	385	230	9 / 12 / 14	0 to 60	15.0 / 70.1 / 100.45		
<b>KPM51MUG1T60</b>				1,600			370						
<b>KPM51MUG800G</b>				800			340						
<b>KPM51MUG400G</b>				400			1,260					270	150
<b>KPM51VUG6T40</b>	3	SAS-3.0, single/dual port and MultiLink SAS™ support	2.5 inch	6,400	2,100	2,100	385	120	9 / 12 / 14	0 to 60	15.0 / 70.1 / 100.45		
<b>KPM51VUG3T20</b>				3,200			370						
<b>KPM51VUG1T60</b>				1,600			340						
<b>KPM51VUG800G</b>				800			1,260					270	80
<b>KPM51VUG400G</b>				400	1,470	680	180	70					
<b>KPM51RUG15T3</b>	1	SAS-3.0, single/dual port and MultiLink SAS™ support	2.5 inch	15,360	2,100	2,100	300	55	9 / 12 / 14	0 to 60	15.0 / 70.1 / 100.45		
<b>KPM51RUG7T68</b>				7,680			385						
<b>KPM51RUG3T84</b>				3,840			370						
<b>KPM51RUG1T92</b>				1,920			340						
<b>KPM51RUG960G</b>				960			1,260					270	45
<b>KPM51RUG480G</b>				480			1,470					680	180

## CM5 Series

Based on 64-layer BiCS FLASH™ 3D flash memory, the CM5 Series of dual-port PCIe®/ NVMe™ SSDs is available in 2.5 inch form factor and add-in-card form factors with capacities up to 15.3 TB. These SSDs feature Power Loss Protection (PLP) and offer a range of security/encryption options<sup>\*2</sup>.

Model Number	*3 DWPD	Interface	Form Factor	*4 User Capacity (GB)	Performance (up to)				*9 Typical Power Consumption (W)	Operating Temperature (°C)	Dimensions H / W / L (mm)
					Sequential (128 KiB) *5 *6 *7 (MB/s)		Random (4 KiB) *5 *6 *7 *8 (KIOPS)				
					Read	Write	Read	Write			
<b>KCM51VUG6T40</b>	3	PCIe® Gen3 x4, single/dual port support	2.5 inch	6,400	3,350	3,040	770	165	16	0 to 60	15.0 / 70.1 / 100.45
<b>KCM51VUG3T20</b>				3,200			750	160	15		
<b>KCM51VUG1T60</b>				1,600	3,250	2,460	650	145	13		
<b>KCM51VUG800G</b>				800		1,250	370	95	11		
<b>KCM51RUG15T3</b>	1	PCIe® Gen3 x4, single/dual port support	2.5 inch	15,360	3,350	3,040	590	35	18	0 to 60	15.0 / 70.1 / 100.45
<b>KCM51RUG7T68</b>				7,680			770	80	16		
<b>KCM51RUG3T84</b>				3,840			750	70	15		
<b>KCM51RUG1T92</b>				1,920	3,250	2,460	650	65	13		
<b>KCM51RUG960G</b>				960		1,250	370	50	11		

\*1 : PLP (Power Loss Protection): PLP supports the recording of data in buffer memory into flash memory, utilizing back up power of a capacitor in case of unexpected power loss.

\*2 : Optional security features

- PM5 and 2.5 inch of CM5 Series offer a range of security options ; Sanitize Instant Erase (SIE), Self-Encrypting Drive (SED), and Self-Encrypting Drive (SED) with FIPS 140-2 validation or compliance. The Add-in card version of the CM5 has SIE and SED options.
- Drive models with different security options have different part numbers.
- The Sanitize Instant Erase (SIE) option supports Crypto Erase, which is a standardized feature defined by the technical committees (T10) of INCITS (the Inter National Committee for Information Technology Standards) or by NVM Express Inc..
- SED (Self-Encrypting Drive) SSDs support TCG Enterprise SSC or TCG Opal SSC (Unsupported features are included in CM5 / SED optional model).
- FIPS drives are designed to comply with FIPS 140-2 Level 2, which defines "Security Requirements for Cryptographic Modules" by NIST (the National Institute of Standards and Technology). PM5 Series is validated, CM5 series is planning to make FIPS 140-2 validated drives available.
- For more details and the latest validation status of CM5 Series, please send an inquiry through the "Contact us" form in each region's website, <https://business.kioxia.com/>
- Optional security feature compliant drives are not available in all countries due to export control and local regulations.

\*3 : DWPD: Drive Write Per Day. One full drive write per day means the drive can be written and re-written to full capacity once a day every day for five years, the stated product warranty period. Actual results may vary due to system configuration, usage and other factors.

\*4 : Definition of capacity: 1 terabyte (1 TB) = 1,000 gigabytes (GB), 1 GB = 1,000,000,000 (10<sup>9</sup>) bytes

\*5 : A kibibyte (KiB) means 2<sup>10</sup>, or 1,024 bytes.

\*6 : The performance specifications of the PM5 Series is based on testing in dual-port mode, running at 14 W of power. The performance of the CM5 Series is based on single-port mode (1x4).

\*7 : Read and Write speeds may vary depending on the host device, read and write conditions, and file size.

\*8 : IOPS: Input Output Per Second (or the number of I/O operations per second)

\*9 : The PM5 Series can operate in a range of power modes: 9 W, 12 W, 14 W, 18 W (for MultiLink). The CM5 Series can operate in a range of power modes: 9 W, 11 W, 14 W, 16 W, 18 W.

Customers must refer to and comply with the latest versions of all relevant KIOXIA information, including without limitation, this document, the specifications, the data sheets and application notes for Product and the precautions and conditions set forth in the KIOXIA Reliability Handbook and the instructions for the application with which the Product will be used with or for.

All information provided in this catalog is subject to change without any prior notice. For the latest and detail specification, please send an inquiry through "Contact us" in each region's website, <https://business.kioxia.com/>

- PCIe is registered trademark of PCI-SIG.
- NVMe is trademark of NVM Express, Inc.
- MultiLink SAS is a trademark of the SCSI Trade Association.
- All other company names, product names and service names mentioned herein may be trademarks of their respective companies.